

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

- 1 1. (Currently Amended) An intravascular balloon catheter comprising:
2 a catheter body having a proximal end, a distal end, and a guidewire lumen
3 therebetween; and
4 a first balloon structure having a passage which is slidably receivable over the
5 catheter body and an axial groove along at least a portion of the structure and the passage to
6 removably receive at least a portion of the catheter body.
- 1 2. (Currently Amended) An intravascular balloon catheter comprising:
2 a catheter body having a proximal end, a distal end, and a guidewire lumen
3 therebetween; and
4 a first balloon structure having a passage for slidably receiving the catheter body
5 and an axial grove along at least a portion of the structure and the passage for slidably receiving
6 at least a portion of the catheter body.
- 1 3.-10. (Canceled).
- 1 11. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~1, 2, or 3~~, wherein the catheter body comprises a tubular member having at least one lumen.
- 3 12. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
4 ~~1, 2, or 3~~, wherein a perimeter of the catheter body has a circular, ~~oblong, or elliptical~~ shape.
- 1 13. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~1, 2, or 3~~, wherein the distal end of the catheter body is axially tapered for a length of at least 3
3 mm.
- 1 14. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~13~~, wherein the distal end of the catheter body is axially tapered for a length of at least 0.5 mm.

1 15. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 14, wherein the distal end of the catheter body is axially tapered for a length of at least 0.1 mm.

1 16. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 1, 2, or 3, further comprising an atraumatic tip at the distal end of the catheter body.

1 17. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 1, 2, or 3, wherein the balloon structure distal end is distally tapered.

1 18. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 1, 2, or 3, wherein the catheter body is formed at least in part from a polymer material, a
3 composite material, a braided material, a metal material, or a metal alloy.

1 19. (Canceled).

1 20. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 18, wherein the catheter body is formed from a metal alloy comprising ~~comprises~~ a nickel
3 titanium alloy.

1 21. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 1, 2, or 3, wherein the catheter body comprises multiple tubular members coupled to one another.

1 22. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 1, 2, or 3, wherein the balloon structure comprises a shaft including an inflation lumen extending
3 at least along a portion thereof.

1 23. (Original) An intravascular balloon catheter as in Claim 22, wherein the
2 shaft has sufficient column strength to advance the balloon structure over the catheter body.

1 24.-25. (Canceled).

1 26. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 1, 2, or 3, wherein the balloon structure comprises a distal section having an inflatable member

3 disposed thereat, and a lumen comprising an inflation lumen extending proximally from the
4 inflatable member.

1 27. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~1, 2, or 3~~, wherein the balloon structure comprises a distal section having an inflatable member
3 disposed thereat, and the passage at least in part extends proximally from the inflatable member.

1 28. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~1, 2, or 3~~, wherein the balloon structure comprises a distal section having an inflatable member
3 disposed thereat, and the passage at least in part extends distally from the inflatable member.

1 29.-30. (Canceled).

1 31. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~30~~, wherein the groove has a length in the range from 10 cm to 150 cm and an opening in the
3 range from 0.001 inches to 0.014 inches.

1 32. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~22, 23, 24, 25 or 26~~, wherein the inflation lumen has a length in the range from 10 cm to 150 cm.

1 33.-34. (Canceled).

1 35. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~1, 2, or 3~~, wherein the catheter body is substantially free from structure at the proximal end
3 which would interfere with passage of the balloon structure over the proximal end of the catheter
4 body.

1 36.-44 (Canceled).

1 45. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~1, 2, or 3~~, wherein the catheter body has a length in the range from 50 cm to 200 cm, and outer
3 diameter in the range from 1 F to 10 F, and a guidewire lumen diameter in the range from 0.2
4 mm to 2 mm.

1 46. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~1, 2, or 3~~, wherein the balloon structure, further comprises a sleeve having an inflatable balloon
3 disposed over an outer surface of the sleeve, wherein the passage is formed axially in the sleeve.

1 47. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~1, 2, or 3~~, wherein the balloon structure, further comprises a sleeve having an inflatable balloon
3 disposed over at least a portion thereof, wherein the passage is an axial passage distal to a
4 balloon chamber.

1 48. (Original) An intravascular balloon catheter as in Claim 46, wherein the
2 sleeve has a length in the range from 3 cm to 50 cm and the inflatable balloon has a length in the
3 range from 1 cm to 5 cm.

1 49. (Original) An intravascular balloon catheter as in Claim 46, wherein at
2 least a portion of the sleeve is slidably receivable over the catheter body.

1 50.-68. (Canceled).

1 69. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~1, 2, or 3~~, wherein the guidewire lumen extends from the catheter body proximal end to a distal
3 tip at the catheter body distal end.

1 70. (Canceled).

1 71. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~1, 2, or 3~~, wherein the catheter body comprises multiple tubular members fluidically connectable
3 to one another.

1 72. (Canceled).

1 73. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~72~~, wherein the groove is a single continuous groove.

1 74. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~72~~, wherein the groove includes multiple intermittent grooves.

1 75. (Canceled).

1 76. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~72 or 75~~, wherein the groove includes transverse ends.

1 77.-78. (Canceled).

1 79. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 ~~72 or 75~~, wherein the groove has a length in the range from about 1 cm to about 200 cm.

1 80. (Original) An intravascular balloon catheter as in Claim 79, wherein the
2 groove has a length in the range from about 1 cm to about 150 cm.

1 81. (Original) An intravascular balloon catheter as in Claim 80, wherein the
2 groove has a length in the range from about 10 cm to about 150 cm.

1 82. (Original) An intravascular balloon catheter as in Claim 76, wherein the
2 groove has an opening formed between the transverse ends in the range from 0.001 inches to 0.1
3 inches.

1 83. (Original) An intravascular balloon catheter as in Claim 82, wherein the
2 groove has an opening formed between the transverse ends in the range from 0.001 inches to
3 0.014 inches.

1 84. (Currently Amended) An intravascular balloon catheter as in Claim
2 Original ~~72 or 75~~, wherein the groove has an inner diameter in the range of about 0.0145 to 0.03
3 inches.

1 85. (Original) An intravascular balloon catheter as in Claim 84, wherein the
2 groove has an inner diameter in the range of about 0.016 to 0.02 inches.

1 86.-90. (Canceled).

1 91. (Currently Amended) An intravascular balloon catheter as in Claim 1 or
2 2, 1, 2, or 3 wherein the balloon structure, further comprises a sleeve forming at least in part the
3 passage.

1 92.-96. (Canceled).

1 97. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 1, 2, or 3, wherein the catheter body distal end includes a distal tip configured to be slidably
3 disposable distal to a distal tip of the balloon structure.

1 98. (Original) An intravascular balloon catheter as in Claim 26, wherein the
2 balloon structure distal portion lumen includes multiple lumens.

1 99. (Currently Amended) An intravascular balloon catheter as in Claim 1 or
2 2, 1, 2, or 3, wherein the balloon structure comprises multiple lumens in a distal portion of the
3 structure.

1 100. (Original) An intravascular balloon catheter as in Claim 91 wherein the
2 sleeve forming the passage includes multiple lumens along at least a portion thereof.

1 101. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2
2 72, wherein the axial groove is, further configured to removably receive at least a portion of the
3 catheter body.

1 102.-106. (Canceled).

1 107. (Original) An intravascular balloon catheter as in Claim 91, further
2 comprising an inflatable member disposed on an exterior of the sleeve.

1 108.-131. (Canceled).

1 132. (Presently Amended) An intravascular balloon catheter receivable over an
2 elongate body, comprising:

3 a first balloon structure having proximal and distal sections and including a shaft
4 having an inflation lumen extending at least along a portion thereof;
5 a passage at the structure distal section which is slidably receivable over the
6 elongate body; and
7 an axial groove formed over at least a portion of the length of the shaft and along
8 a length of the passage to removably receive at least a portion of the elongate body.

1 133. (Original) An intravascular balloon catheter as in Claim 132, wherein the
2 groove is formed along the proximal two third length of the balloon strucutre.

1 134. (Original) An intravascular balloon catheter as in Claim 132, wherein the
2 groove is formed along the the length of the balloon structure proximal to the passage.

1 135. (Original) An intravascular balloon catheter as in Claim 134, wherein the
2 groove extends within at least a portion of the the passage.

1 136. (Currently Amended) An intravascular balloon catheter as in Claim 132,
2 wherein the groove is formed along an outside surface of the balloon ~~balloon~~ structure shaft.

1 137. (Currently Amended) An intravascular balloon catheter as in Claim 132,
2 wherein the groove is formed along an outside surface of the elongate body ~~an inflation lumen~~.

1 138. (Original) An intravascular balloon catheter as in Claim 132, wherein
2 shaft is formed at least in part from a material configured to provide sufficient column strength to
3 the shaft.

1 139. (Original) An intravascular balloon catheter as in Claim 132, wherein
2 shaft is formed at least in part from stainless steel or nickle titanium alloy.

1 140. (Original) An intravascular balloon catheter as in Claim 132, wherein the
2 groove is a single continuous groove.

1 141. (Original) An intravascular balloon catheter as in Claim 132 or 140,
2 wherein the groove is configured to provide a continuous path for the elongate body along at
3 least a portion of the catheter structure.

1 142. (Original) An intravascular balloon catheter as in Claim 132 or 140,
2 wherein the groove is configured to provide a continuous path for the elongate body along the
3 proximal section of the catheter structure to a point proximal to or at least within the passage.

1 143. (Original) An intravascular balloon catheter as in Claim 132, wherein the
2 groove includes multiple intermittent grooves.

1 144. (Original) An intravascular balloon catheter as in Claim 132, wherein the
2 groove includes transverse ends.

1 145.146. (Canceled).

1 147. (Original) An intravascular balloon catheter as in Claim 144, wherein the
2 groove has a length in the range from about 1 cm to about 200 cm.

1 148. (Original) An intravascular balloon catheter as in Claim 144, wherein the
2 groove has a length in the range from about 1 cm to about 150 cm.

1 149. (Original) An intravascular balloon catheter as in Claim 144, wherein the
2 groove has a length in the range from about 10 cm to about 150 cm.

1 150. (Original) An intravascular balloon catheter as in Claim 144, wherein the
2 groove has an opening formed between the transverse ends in the range from 0.001 inches to 0.1
3 inches.

1 151. (Original) An intravascular balloon catheter as in Claim 144, wherein the
2 groove has an opening formed between the transverse ends in the range from 0.001 inches to
3 0.014 inches.

1 152. (Original) An intravascular balloon catheter as in Claim 132, wherein the
2 groove has an inner diameter in the range of about 0.0145 to 0.03 inches.

1 153. (Original) An intravascular balloon catheter as in Claim 132, wherein the
2 groove has an inner diameter in the range of about 0.016 to 0.02 inches.

1 154. (Original) An intravascular balloon catheter as in Claim 132, wherein the
2 elongate body is a catheter body.

1 155. (Original) An intravascular balloon catheter as in Claim 132, wherein the
2 elongate body is a guidewire.

1 156.-166. (Canceled).